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ABSTRACT

A national survey of 70 academic libraries was conducted in Fall 1985 to gain a greater understanding of how end-user search services are used, and to assist in their design and implementation. A 69% response rate was achieved. The objectives of the investigation were to gather information on the following factors: (1) types and formats of end-user systems currently operational among the academic libraries surveyed; (2) modes of instruction and types of instructional materials employed; (3) clientele served; (4) evaluation methods and techniques; (5) funding sources; (6) perceived advantages of offering the services; (7) problems and obstacles to overcome; and (8) important variables to consider before offering a service. Study results indicate that libraries provide access to a wide range of users, a variety of systems, and a varied pattern of instructional materials, and that, as new systems emerge, libraries are substituting one system for another, rather than abandoning the practice of offering end-user searching to their patrons. Statistical results are presented in 10 tables, and notes and a listing of libraries surveyed are provided. (KM)

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An Examination of End-User Search Services in Academic Libraries*

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*An expanded version of this article was presented at the 14th annual Loex conference.

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ABSTRACT

To gain a greater understanding of how end-user search services have affected academic libraries, a national survey of 70 libraries was undertaken in the Fall 1985. Results indicated that libraries provide access to a wide range of users, a variety of systems, and a varied pattern of instructional materials. As new technologies emerge, libraries are substituting one system for another, rather than abandoning the practice of offering end-user searching to their patrons.

Academic libraries are currently wrestling with the decision of how best to address the needs of their clientele concerning end-user search services.

Those libraries which have opted to offer their patrons access to the latest technological retrieval systems may have done so for a variety of reasons. These include (1) an accelerated increase in the number of microcomputers found in the laboratory, office, and home environments (2) new types of front-end and gateway software intended to make searching easier and more convenient for the infrequent, part-time user (3) a reduction in the amount of search costs for databases used during non-peak times (4) menu-driven systems available during the daytime (5) flexible billing options and charging frameworks, including the introduction of special educator rates for classroom-based instruction , the elimination of minimum usage fees, charges levied for only those searches which actually retrieve results, capabilities for the acceptance of users' personal credit card numbers rather than the exclusive reliance upon charges to library accounts and (7) ability to download or re-use information from secondary sources to create personal information system files.

Although the library literature has paid much attention to the emergence of end-user searching and is replete with a multitude of studies, these tend to address only specific systems (O'Leary, 1986; Quint, 1986; Stephens, 1986; Kaplan, 1985; O'Leary, 1985; Smith and Phillips, 1984; Trzebiatowski, 1984)1 or local library experiences (Ernest and Monath,

1986; Stewart and Markiewicz, 1986; Crooks, 1985; Dodd and others, 1985; Friend, 1985; Ward, 1985).[2] They are narrow in focus and limited in scope, and have not provided a broadly based view of the extend to which end-user searching is offered in academic libraries.

Therefore, to gain a greater understanding of how these services are used and to assist in their design and implementation, a national study of the status of end-user search services in selected four year academic libraries was undertaken in the Fall of 1985.

OBJECTIVES

The objectives of the investigation were to gather information relative to

(1) The types and formats of end-user systems currently operational among the academic libraries surveyed

(2) The modes of instruction and types of instructional materials employed

(3) The clientele served

(4) Evaluation methods and techniques

(5) Funding sources

(6) Perceived advantages of offering the services

(7) Problems and obstacles to overcome

(8) Important variables to consider before offering a service.

METHODOLOGY

The methodology employed was survey research. Data was collected from a national sample of 70 academic librarians. No attempt was made to select a random sample. Instead, librarians known to be engaged in end-user searching were contacted through directory listings supplied by the ACRL/BIS Computer Concerns Committee, the RASD/MARS Direct Patron Access to Computer-Based Reference Systems Committee, and the California Clearinghouse on Library Instruction. No attempt was made to provide a balance by geographic location, type of library, size of library, or type of end-user program.

A direct-mail, self-administered, original 40-item instrument served as the data gathering tool. A 69% response rate was achieved, and of those who responded, 43% or 30 cases were deemed valid for use. Responses were declared invalid if a majority of the questionnaire was not completed,

or if the instrument was completed by an individual other than the one selected for the study.

Data was analyzed using non-parametric techniques. Because of multiple response patterns or lack of responses in some instances, the number of responses may not always equal the number of cases.

RESULTS

Table 1 reports the types and formats of end-user systems employed. Of the 47 systems listed on the questionnaire, only one-third were actually available to users. There was much variation as to a system standard, and no homogeneous response pattern. The most popular system among those surveyed was BRS/After Dark. Because of relative accounting ease, BRS/After Dark and Search Helper were offered more frequently than other services. Several libraries indicated plans to substitute Wilsearch for Search Helper. Several of those libraries which offered InfoTrac at the time of the survey had not yet purchased the system. Instead, they were the recipients of a temporary free loan arrangement with the Information Access Company. Therefore, they could not state with certainty whether or not their libraries would continue the service. Several libraries had plans to add subscriptions to Easynet, the dial-up gateway service which offers a special library rate. Most libraries preferred using menu-driven, rather than command-driven or

native mode systems.

(Insert Table 1 here)

Tables 2 and 3 address instruction. More than half of the libraries reported that initial instruction occurs on demand by a librarian, rather than by a non-professional or as part of a course lecture, seminar or tour. Worksheets were viewed as the preferred form of instructional material, although manuals, brochures, sample searches, and other materials were used.

(Insert Tables 2 and 3 here)

Table 4 reports the results of evaluation techniques used. Over one-third of the libraries surveyed utilized solicited user questionnaires. Observations by library staff members were the next frequently used technique. Less common were discussions with users and unsolicited questionnaires.

(Insert Table 4 here)

No library surveyed restricted usage only to librarians for such activities as ready-reference searching or inexpensive mediated searching. Instead, all libraries provided access to a wide range of users, both on-campus and non-university affiliated. These results are reported in Table 5.

(Insert Table 5 here)

Tables 6 and 7 show that the majority of the libraries surveyed did not charge their users. Instead, costs were covered from the general library budget or from other sources. If fees were assessed, a variety of pricing structures were employed including charging by the amount of time expended or by the number of searches.

(Insert Tables 6 and 7 here)

When asked to comment upon the advantages of having an end-user system, librarians indicated five predominant reasons, and volunteered four of their own.

Without a doubt, they felt that the disadvantages outweighed the advantages, but these feelings may be characteristic of the types of systems used at the time of the survey or the length of experience with them.

There was also no reticence in expressing opinions

about important variables contributing to the success of an end-user search system. Training for both staff and users topped this list. Results are reported in tables 8, 9, and 10.

(Insert Tables 8, 9, 10 here)

Summary

The magnitude of end user programs operational at the time of the study was surprising, and encouraging to those libraries still deciding upon the most appropriate path to take for their own users.

Results of this study show that end-user services may not always be enthusiastically embraced by staff members. Yet libraries appear to be substituting one system for another, rather than abandoning the practice of offering users the opportunity to conduct their own searches.

In terms of techniques for initially instructing users to operate and understand the systems, librarian instruction on a stand-alone unit seems to be the predominate model. Although many systems are menu-driven and meant to be self service and, therefore, relatively easy for the novice user to operate, librarians have still felt the need to supplement vendor-produced documentation with a variety of locally produced print and nonprint instructional materials.

What can be learned from this study? From the results presented, it appears that any effort to establish and sustain an end-user search service may be predicated upon high quality software and hardware, plus a collaborative, planned effort between administration and staff to commit funds for training, space, and publicity. Although there appears to be no consensus as to the optimal type of service, where offered, these services have become mainstays of academic libraries, rather than mere novelties.

The policy decision of whether or not to offer the service, however, is an individual matter. Libraries will have to decide for themselves whether they have an obligation to offer this rapidly changing technology to their users.

With the advent of laser/optical disk technology, artificial intelligence, and expert systems, end-user searching may continue to evolve. Therefore, libraries have the choice of adopting a wait and see attitude, or providing and alternative to traditional methods for locating information.

Libraries are moving from the precipice to solid ground in bringing intelligent information retrieval systems into the hands of their actual users. However, before such a decision is made, a wide-range of information must be obtained to fully appreciate, and plan for, the impact of such services.

Table 1

Types of Systems Offered

System	Number	Percent*
BRS/After Dark	15	.50
Search Helper	6	.20
InfoTrac	6	.20
BRS/BRKTHRU	4	.13
Wilsearch	4	.13
Knowledge Index	3	.10
Easynet	2	.06
Dow Jones News Retrieval	1	.03
ERIC MICROSearch	1	.03
Paperchase	1	.03

*Total exceeds 100% due to multiple responses

Table 2

How Librarian Initially Instructs

Type	Number	Percent*
On Demand	20	.66
Course-Integrated Lecture	12	.40
Seminar or Workshop	10	.33
Orientation or Tour	7	.23
Demonstration	1	.03

*Total exceeds 100% due to multiple responses

Table 3

Initial Instructional Materials

Type	Number	Percent*
Worksheets	14	.47
Operating Manuals	11	.37
Brochures	8	.27
Annotated Sample Searches	6	.20
Signs	5	.17
Flip Charts	2	.06
AV Presentations	2	.06
CAI Tutorials	2	.06

*Total exceeds 100% due to multiple responses

Table 4

Evaluation

Type	Number	Percent
Solicited Questionnaires	11	.37
Observations by Staff	9	.30
Discussions with Users	2	.07
Unsolicited Questionnaires	1	.03
No Formal Evaluation	1	.03

Table 5

Users

Type	Number	Percent
Students	27	.90
Faculty	21	.70
Librarians	19	.63
Staff	14	.47
Non-Universsity Community	8	.27

Table 6

Sources of Funding

Type	Number	Percent
General Library Budget	13	.43
User Fees	8	.27
University Grant	3	.10
Academic Department	3	.10
Public Services' Budget	2	.06
Vendor (On Loan)	2	.06
Book Budget	1	.03
Online Budget	1	.03

*Total exceeds 100% due to multiple responses

Table 7

Charges Assessed

Type	Number	Percent
None	15	.50
Flat Fee/Minute	5	.17
Flat Fee/Search	3	.10
Cost Recovery	2	.07
Flat Fee/Five Minutes	1	.03
In Excess of $8.00	1	.03

Table 8

Advantages

Type	Number	Percent*
Increased User Satisfaction	20	.67
Enhanced Campus Image	16	.53
Access to Current Info	16	.53
Low Cost	11	.37
Ease of Use	10	.33
Reduced Libn Workload	1	.03
Few Advantages	1	.03
User Awareness	1	.03
Improved Access to Periodicals	1	.03
Brings Patrons to Ref Desk	1	.03

*Total exceeds 100% due to multiple responses

Table 9

Disadvantages

Type	Number	Percent*
Increased Workload	19	.63
Unprepared Users	14	.47
Machine Malfunctions	9	.30
Restrictive Results	6	.20
Less Use Than Expected	6	.20
Restrictive Hours	4	.13
Downtime	3	.10
Increased ILL	1	.03
High Cost	1	.03
Difficult Commands	1	.03
Lack of Training Materials	1	.03
Poorly Designed Software	1	.03
Assume Library Owns Listings	1	.03

*Totals exceed 100% due to multiple responses

Table 10

Important Variables to Consider

Type	Number	Percent*
User Training	19	.63
Staff Training	18	.60
Administrative Support	16	.53
Quality of Software	16	.53
Space	13	.43
Staff Acceptance	9	.30
Publicity	9	.30
Quality of Hardware	9	.30
Quality of Documentation	2	.06
Search Lab Facilities	1	.03
Low Cost	1	.03
Presearch Counseling	1	.03

*Totals exceed 100% due to multiple responses

Footnotes

1 Mick O'Leary, "Wilsearch: A New Departure for An Old Institution," Online 10:102-108 (March 1986); Barbara Quint, "Menlo Corporation's Pro-Search," Online 10:17-25 (January 1986); Kent Stephens, "InfoTrac: Laserdisc Technology Enters Mainstream," American Libraries 17:252 (April 1986); Robin Kaplan, "Knowledge Index: A Review," Database 8:122-128 (June 1985); Mick O'Leary, "EasyNet: Doing It All for the End User," Online 9:106-113 (July 1985); Rita H. Smith and Linda L. Phillips, "Search Helper: An Online Service for Undergraduates," Reference Services Review 12:31-34(Fall 1984); Elaine Trzebiatowski, "End User Study on BRS/After Dark," RQ 23:446-450 (Summer 1984).

2 Douglas J. Ernest and Jennifer Monath. "User Reaction to a Computerized Periodical Index," College and Research Libraries News 47:315-318 (May 1986); Linda Guyotte Stewart and James Markiewicz, "Teaching Information Retrieval:

Lessons From Cornell," Wilson Library Bulletin 60:32, 79 (March 1986); James Crooks, "End User Searching at the University of Michigan Library," Proceedings of the 6th National Online Meeting. (Medford, NJ: Learned Information, 1985),p.99-110; Jane Dodd and Others. Texas A & M University Library. A Final Report From the Public Services Research Projects. A Comparison of Two End User Operated Search Systems. One of a Series of Self-Studies and Research Projects.(Washington, D.C.: Association of Research Libraries, Management Studies, 1985); Linda Friend, "Independence at the Terminal: Training Student End Users to do Online Literature Searching," Journal of Academic Librarianship 11:136-141(July 1985); Sandra N. Ward, "Course-Integrated DIALOG Instruction," Research Strategies 3:52-64 (Spring 1985).

Libraries Surveyed

University of Akron

University of Arkansas, Little Rock

Bowling Green State University

Cal Poly, Pomona

California State Universsity

- Bakersfield
- Chico
- Humboldt
- San Francisco

University of California

- Berkeley
- Davis
- San Diego
- San Francisco
- Santa Barbara

Carnegie Mellon University

University of Cincinnati

University of Colorado, Boulder

University of Connecticut

Cornell University

University of Delaware

De Paul University

De Pauw University

Earlham College

Florida Institute of Technology

George Mason University

George Washington University

Georgetown University

Kent State University

Lehigh University

Mansfield Unviersity

Memphis State University

University of Michigan

University of Missouri, Columbia

Nazareth College of Rochester

New York University

North Carolina State University

Northern Illinois University

Northwestern University

University of Ottawa

Pennsylvania State University

Philadelphia College of Pharmacy

Purdue University

University of Rochester

Stanford University

University of Tennessee, Knoxville

Texas A & M University

University of Vermont

University of Washington

University of Wisconsin, Parkside

Willamette University